NOTICE

All drawings located at the end of the document.

INDUSTRIAL AREA SAMPLING AND ANALYSIS PLAN FY03 ADDENDUM #IA-03-07 IHSS GROUP 500-2

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INDUSTRIAL AREA SAMPLING AND ANALYSIS PLAN FY03 ADDENDUM #IA-03-07 IHSS GROUP 500-2

Approval received from the Colorado Department of Public Health and Environment

June 6, 2003

Approval letter contained in the Administrative Record

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ACRONYMS

FY Fiscal Year

HRR Historical Release Report

IA Industrial Area

IASAP Industrial Area Sampling and Analysis Plan

IHSS Individual Hazardous Substance Site

MDL method detection limit mg/kg milligrams per kilogram

N/A not applicable

pCi/g picocuries per gram

PCOC potential contaminant of concern SAP Sampling and Analysis Plan

ug/kg microgram per kilogram

VOC volatile organic compound

1.0 INTRODUCTION

This Industrial Area (IA) Sampling and Analysis Plan (SAP) (IASAP) (DOE 2001) Addendum #IA-03-07 includes Individual Hazardous Substance Site (IHSS) Group-specific information, sampling locations, and potential contaminants of concern (PCOCs) for IHSS Group 500-2. IHSS Group 500-2 consists of a single IHSS, IHSS 158, Building 551 Radioactive Site. This IASAP Addendum is a supplement to the IASAP (DOE 2001) and includes data and proposed sampling locations for IHSS 158. The location of IHSS 158 is shown on Figure 1.

1.1 EXISTING CHARACTERIZATION INFORMATION

Concentrations and activities detected above the background mean plus two standard deviations, or method detection limit (MDL), are presented on Figure 2. Existing information and data for this IHSS are available in Appendix C of the IASAP (DOE 2001), the Historical Release Report (HRR) (DOE 1992-2002), and the Industrial Area Data Summary Report (DOE 2000). PCOCs for this IHSS include radionuclides, metals, and volatile organic compounds (VOCs) in surface and subsurface soils as presented in Table 1.

Analyte concentrations and radionuclide activities above background means plus two standard deviations or MDLs for existing analytical data, are presented on Figure 2. Table 2 presents these PCOCs. Results from eight locations indicated radionuclides, primarily americum-241 and plutonium-239/240, greater than background mean plus two standard deviation activities. Metal concentrations were greater than background mean plus two standard deviations at eight locations. Volatile organic compounds were not analyzed for in IHSS 158.

2.0 IHSS GROUP 500-2 SAMPLING

The proposed sampling specifications (number and types of samples) for IHSS 158 are listed in Table 2 and Figure 3. Proposed new sampling locations are the starting point for this IHSS characterization. After characterization starts, the number and type of samples may change based on sampling results. Changes to sampling specifications will be considered in consultation with the regulatory agencies.

Three types of sampling strategies are used to determine sampling locations: statistical, geostatistical, and biased. Statistical grids have computer-generated random start points and orientations. Additionally, the grids extend outside the IHSS, PAC, or UBC Site to provide additional sampling locations if needed. Biased samples may be added based on existing data coverage to supplement the statistical grid locations.

A statistical grid was selected to determine sampling locations for IHSS 158. The grid dimension is 11 meters in accordance with the IASAP (DOE 2001); however a 22-meter grid was used at Building 551. Where a new sampling location overlaps or is adjacent to an existing sampling location, the existing sampling location data will be used during evaluation. Statistical sampling locations within a building footprint may be adjusted in the field to collect samples from specific building features.

Two biased sampling locations (CA42-030 and CA42-031) were selected to characterize retention pond associated with Building 553. The retention pond was identified on an engineering drawing (08926-002) and is located near the southeastern corner of Building 553.

Additionally, two biased sampling locations (CA42-032 and CA42-033) were selected to characterize the Building 553 north and south docks. The sampling specifications for IHSS Group 500-2 are summarized in Table 3.

3.0 REFERENCES

DOE, 1992-2002, Historical Release Reports for the Rocky Flats Plant, Golden, Colorado.

DOE, 2000, Rocky Flats Environmental Technology Site Industrial Area Data Summary Report, Golden, Colorado, September.

DOE, 2001, Industrial Area Sampling and Analysis Plan, Rocky Flats Environmental Technology Site, Golden, Colorado, June.

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Table 1
Potential Contaminants of Concern IHSS Group 500-2

Table 2

	Comment		Statistical	Statistical	Statistical	Statistical	Statistical	Statistical	Statistical	Statistical	Statistical	Statistical	Statistical	Statistical	Statistical	Statistical	Statistical	Statistical
	Offsite Laboratory Method		Alpha Spec	6010	8260	Alpha Spec	6010	8260	Alpha Spec	6010	8260	Alpha Spec	6010	8260	Alpha Spec	6010	8260	Alpha Spec
	Onsite Laboratory Method		HPGe	6200	8260	HPGe	6200	8260	HPGe	6200	8260	HPGe	6200	8260	HPGe	6200	8260	HPGe
Fronp 500-2	Analyte		Radionuclides	Metals	VOCs	Radionuclides	Metals	VOCs	Radionuclides	Metals	VOCs	Radionuclides	Metals	VOCs	Radionuclides	Metals	VOCs	0.5 - 2.5 Radionuclides
SSHI SU	Depth Interval		0.0 - 0.5	6.0 - 0.5	0.0 - 0.5	0.5 - 2.5	0.5 - 2.5	0.5 - 2.5	0.0 - 0.5	5.0 - 0.0	0.0 - 0.5	0.5 - 2.5	0.5 - 2.5	0.5 - 2.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	-
Sampling Specifications IHSS Group 500-2	Media		Surface Soil	Surface Soil	Surface Soil	Subsurface Soil	Subsurface Soil	Subsurface Soil	Surface Soil	Surface Soil	Surface Soil	Subsurface Soil	Subsurface Soil	Subsurface Soil	Surface Soil	Surface Soil	Surface Soil	Subsurface Soil
Sampling	Northing		749560.344	749560.344	749560.344	749560.344	749560.344	749560.344	749760.737	749760.737	749760.737	749760.737	749760.737	749760.737	749725.062	749725.062	749725.062	749725.062
	Easting		2082667.624	2082667.624	2082667.624	2082667.624	2082667.624	2082667.624	2082671.968	BZ41-006 2082671.968	2082671.968	2082671.968	2082671.968	2082671.968	2082676.796 749725.062	2082676.796 749725.062	2082676.796	BZ41-007 2082676.796 749725.062
	Location Code		BZ40-003	BZ40-003	BZ40-003	BZ40-003	BZ40-003	BZ40-003	BZ41-006	BZ41-006	BZ41-006	BZ41-006	BZ41-006	BZ41-006	BZ41-007	BZ41-007	BZ41-007	BZ41-007
	IHSS/PAC/UBC Site	IHSS 158 – Building 551 Radioactive Active																
	IHSS Group	500-2							_					-				

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	Statistical	Statistical	Statistical	Statistical	Statistical	Statistical	Statistical	Statistical	Statistical	Statistical	Statistical	Statistical	Statistical	Statistical	Statistical	Statistical	Statistical	Statistical	Statistical	Statistical	Statistical	Statistical	Statistical	Statistical	Statistical	Statistical	Statistical	Statistical	Statistical
Laboratory Method	6010	8260	Alpha Spec	6010	8260	Alpha Spec	6010	8260	Alpha Spec	6010	8260	Alpha Spec	6010	8260	Alpha Spec	6010	8260	Alpha Spec	6010	8260	Alpha Spec	6010	8260	Alpha Spec	6010	8260	Alpha Spec	6010	Alpha Spec
Laboratory Method	6200	8260	HPGe	6200	8260	HPGe	6200	8260	HPGe	6200	8260	HPGe	6200	8260	HPGe	6200	8260	HPGe	6200	8260	HPGe	6200	8260	HPGe	6200	8260	HPGe	6200	HPGe
	Metals	VOCs	Radionuclides	Metals	VOCs	Radioniclides	Metals	VOCs	Radionuclides	Metals	VOCs	Radionuclides	Metals	VOCs	Radionuclides	Metals	VOCs	Radionuclides	Metals	VOCs	Radionuclides	Metals	VOCs	Radionuclides	Metals	VOCs	Radionuclides	Metals	Radionuclides
Depui	05-25	05-25	+	_	0.0	+-	+	0.5 - 2.5	- 0.5	1-	0.0 - 0.5	0.5 - 2.5	0.5 - 2.5	0.5 - 2.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	05-25	05-25	0.5 - 2.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	0.5 - 2.5	0.5 - 2.5	0.5 - 2.5	0.0 - 0.5	0.0 - 0.5	0.5 - 2.5
Wedna	Subsurface Soil	Subsurface Soil	Surface Soil	Surface Soil	Surface Soil	Surface Soil	Subsurface Soil	Subsurface Soil	Surface Soil	Surface Soil	Surface Soil	Subsurface Soil	Subsurface Soil	Subsurface Soil	Surface Soil	Surface Soil	Surface Soil	Subsurface Soil	Subsurface Soil	Subsurface Soil	Surface Soil	Surface Soil	Surface Soil	Subsurface Soil	Subsurface Soil	Subsurface Soil	Surface Soil	Surface Soil	Subsurface Soil
Northing	730 367047	┿		749009.307	749009.307	749689.387	749689.387	749069.387	749653 712	749653 712	749653.712	749653.712	749653.712	749653.712	749618 037	740618 037	740618 037	749018:037	749010.037	740618 037	749582 362	740587 362	749582 362	749582 362	749582 362	749582 362	740840 448	749840 448	749840 448
Easting	700 7070000	+	-	-		+	-+	2082681.623	2082681.023	2082686.451	2082686.451	2082686.451	2082686.451	20022005.451	2002002	2002031.270	2082091.270	2082091.270	2082691.278	2082691.278	2082091.278	2082602.105	2082090.105	20826050:105	2082696.102	2002030.103	2002030.103	2082/24.104	2082724.104
Location Code		+	-	BZ41-008	BZ41-008	BZ41-008	BZ41-008	BZ41-008	BZ41-008	5241-009	BZ41-009	DZ41-002	DZ41-009	DZ41-009	BZ41-009	BZ41-010	BZ41-010	BZ41-010	BZ41-010	BZ41-010	BZ41-010	BZ41-011	BZ41-011	BZ41-011	BZ41-011	BZ41-011	BZ41-011	BZ42-001	BZ42-001
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Offsite Laboratory Method	6010	8260	Alpha Spec	. 0109	Alpha Spec	6010	8260	Alpha Spec	6010	Alpha Spec	6010	8260	Alpha Spec	6010	Alpha Spec	6010	8260	Alpha Spec	6010	Alpha Spec	6010	8260	Alpha Spec	6010	Alpha Spec	6010	8260	Alpha Spec	6010
Onsite Laboratory Method	6200	8260	HPGe	6200	HPGe	6200	8260	HPGe	6200	HPGe	6200	8260	HPGe	6200	HPGe	6200	8260	HPGe	6200	HPGe	6200	8260	HPGe	6200	HPGe	6200	8260	HPGe	6200
Analyte	Metals	VOCs	Radionuclides	Metals	Radionuclides	Metals	VOCs	Radionuclides	Metals	Radionuclides	Metals	VOCs	Radionuclides	Metals	Radionuclides	Metals	VOCs	Radionuclides	Metals	Radionuclides	Metals	VOCs	Radionuclides	Metals	Radionuclides	Metals	VOCs	Radionuclides	Metals
Depth Interval	0.5 - 2.5	0.5 - 2.5	0.0 - 0.5	0.0 - 0.5	0.5 - 2.5	0.5 - 2.5	0.5 - 2.5	0.0 - 0.5	0.0 - 0.5	0.5 - 2.5	0.5 - 2.5	0.5 - 2.5	0.0 - 0.5	0.0 - 0.5	0.5 - 2.5	0.5 - 2.5	0.5 - 2.5	0.0 - 0.5	0.0 - 0.5	0.5 - 2.5	0.5 - 2.5	0.5 - 2.5	0.0 - 0.5	0.0 - 0.5	0.5 - 2.5	0.5 - 2.5	0.5 - 2.5	0.0 - 0.5	0.0 - 0.5
Media	Subsurface Soil	Subsurface Soil	Surface Soil	Surface Soil	Subsurface Soil	Subsurface Soil	Subsurface Soil	Surface Soil	Surface Soil	Subsurface Soil	Subsurface Soil	Subsurface Soil	Surface Soil	Surface Soil	Subsurface Soil	Subsurface Soil	Subsurface Soil	Surface Soil	Surface Soil	Subsurface Soil	Subsurface Soil	Subsurface Soil	Surface Soil	Surface Soil	Subsurface Soil	Subsurface Soil	Subsurface Soil	Surface Soil	Surface Soil
Northing	749840.448	749840.448	749804.773	749804.773	749804.773	749804.773	749804.773	749769.098	749769.098	749769.098	749769.098	749769.098	749818.43	749818.43	749818.43	749818.43	749818.43	749796.412	749796.412	749796.412	749796.412	749796.412	749549.753	749549.753	749549.753	749549.753	749549.753	749750.146	749750.146
Easting	2082724.104	2082724.104	2082728.932	2082728.932	2082728.932	2082728.932	2082728.932	+	2082733.759	2082733.759	2082733.759	2082733.759	2082695.623	2082695.623	2082695.623	2082695.623	2082695.623	2082667.141	2082667.141	2082667.141	2082667.141	2082667.141	2082857.823	2082857.823	2082857.823	2082857.823	2082857.823	2082862.168	2082862.168
Location Code	BZ42-001	BZ42-001	BZ42-002	BZ42-002	BZ42-002	BZ42-002	BZ42-002	BZ42-003	BZ42-003	BZ42-003	BZ42-003	BZ42-003	BZ42-005	BZ42-005	BZ42-005	BZ42-005	BZ42-005	BZ42-009	BZ42-009	BZ42-009	BZ42-009	BZ42-009	CA40-014	CA40-014	CA40-014	CA40-014	CA40-014	CA41-017	CA41-017
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Offsite Laboratory Method	Alpha Spec	6010	8260	Alpha Spec	6010	Alpha Spec	6010	8260	Alpha Spec	6010	Alpha Spec	6010	8260	Alpha Spec	6010	Alpha Spec	6010	8260	Alpha Spec	6010	Alpha Spec	6010	8260	Alpha Spec	6010	Alpha Spec	6010	8260	Alpha Spec
Onsite aboratory Method	HPGe	6200	8260	HPGe	6200	HPGe	6200	8260	HPGe	6200	HPGe	6200	8260	HPGe	6200	HPGe	6200	8260	HPGe	6200	HPGe	6200	8260	HPGe	6200	HPGe	6200	8260	HPGe
Analyte L	Radionuclides	Metals	VOCs	Radionuclides	Metals	Radionuclides	Metals	VOCs	Radionuclides	Metals	Radionuclides	Metals	VOCs	Radionuclides	Metals	Radionuclides	Metals	VOCs	Radionuclides	Metals	Radionuclides	Metals	VOCs	Radionuclides	Metals	Radionuclides	Metals	VOCs	Radionuclides
Depth Interval	0.5 - 2.5	0.5 - 2.5	0.5 - 2.5	0.0 - 0.5	0.0 - 0.5	0.5 - 2.5	0.5 - 2.5	0.5 - 2.5	0.0 - 0.5	0.0 - 0.5	0.5 - 2.5	0.5 - 2.5	0.5 - 2.5	0.0 - 0.5	0.0 - 0.5	0.5 - 2.5	0.5 - 2.5	0.5 - 2.5	0.0 - 0.5	0.0 - 0.5	0.5 - 2.5	0.5 - 2.5	0.5 - 2.5	0.0 - 0.5	0.0 - 0.5	0.5 - 2.5	0.5 - 2.5	0.5 - 2.5	0.0 - 0.5
Media	Subsurface Soil	Subsurface Soil	Subsurface Soil	Surface Soil	Surface Soil	Subsurface Soil	Subsurface Soil	Subsurface Soil	Surface Soil	Surface Soil	Subsurface Soil	Subsurface Soil	Subsurface Soil	Surface Soil	Surface Soil	Subsurface Soil	Subsurface Soil	Subsurface Soil	Surface Soil	Surface Soil	Subsurface Soil	Subsurface Soil	Subsurface Soil	Surface Soil	Surface Soil	Subsurface Soil	Subsurface Soil	Subsurface Soil	Surface Soil
Northing	749750.146	749750.146	749750.146	749714.471	749714.471	749714.471	749714.471	749714.471	749678.796	749678.796	749678.796	749678.796	749678.796	749643.121	749643.121	749643.121	749643.121	749643.121	749728.128	749728.128	749728.128	749728.128	749728.128	749692.453	749692.453	749692.453	749692.453	749692.453	749656.778
Easting	2082862.168	₩		2082866.995	2082866.995	2082866.995	2082866.995	2082866.995	╌	2082871.823	2082871.823	2082871.823	┪	2082876.65	+	2082876.65	2082876.65	2082876.65	2082833.686	2082833.686	2082833.686	2082833.686	2082833.686	2082838.514	2082838.514	2082838.514	2082838.514	2082838.514	2082843.341
Location Code	CA41-017	CA41-017	CA41-017	CA41-018	CA41-018	CA41-018	CA41-018	CA41-018	CA41-019	CA41-019	CA41-019	CA41-019	CA41-019	CA41-020	CA41-020	CA41-020	CA41-020	CA41-020	CA41-023	CA41-023	CA41-023	CA41-023	CA41-023	CA41-024	CA41-024	CA41-024	CA41-024	CA41-024	CA41-025
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IHSS/PAC/UBC Site	Location Code	Easting	Northing	Media	Depth Interval	Analyte	Onsite Laboratory Method	Caboratory Method	Comment
	CA41-025	2082843.341	749656.778	Surface Soil	0.0 - 0.5	Metals	6200	6010	Statistical
	CA41-025	2082843.341	749656.778	Subsurface Soil	0.5 - 2.5	Radionuclides	HPGe	Alpha Spec	Statistical
	CA41-025	2082843.341	749656.778	Subsurface Soil	0.5 - 2.5	Metals	6200	6010	Statistical
	CA41-025	2082843.341	749656.778	Subsurface Soil	0.5 - 2.5	VOCs	8260	8260	Statistical
	CA41-026	2082848.168	749621.103	Surface Soil	0.0 - 0.5	Radionuclides	HPGe	Alpha Spec	Statistical
	CA41-026	2082848.168	749621.103	Surface Soil	0.0 - 0.5	Metals	6200	6010	Statistical
	CA41-026	2082848.168	749621.103	Subsurface Soil	0.5 - 2.5	Radionuclides	HPGe	Alpha Spec	Statistical
	CA41-026	2082848.168	749621.103	Subsurface Soil	0.5 - 2.5	Metals	6200	6010	Statistical
	CA41-026	2082848.168	749621.103	Subsurface Soil	0.5 - 2.5	VOCs	8260	8260	Statistical
	CA41-027	2082852.996	749585.428	Surface Soil	0.0 - 0.5	Radionuclides	HPGe	Alpha Spec	Statistical
	CA41-027	2082852.996	749585.428	Surface Soil	0.0 - 0.5	Metals	6200	6010	Statistical
	CA41-027	2082852.996	749585.428	Subsurface Soil	0.5 - 2.5	Radionuclides	HPGe	Alpha Spec	Statistical
	CA41-027	2082852.996	749585.428	Subsurface Soil	0.5 - 2.5	Metals	6200	6010	Statistical
	CA41-027	2082852.996	749585.428	Subsurface Soil	0.5 - 2.5	VOCs	8260	8260	Statistical
	CA41-028	2082800.377	749741.784	Surface Soil	0.0 - 0.5	Radionuclides	HPGe	Alpha Spec	Statistical
	CA41-028	2082800.377	749741.784	Surface Soil	0.0 - 0.5	Metals	6200	6010	Statistical
	CA41-028	2082800.377	749741.784	Subsurface Soil	0.5 - 2.5	Radionuclides	HPGe	Alpha Spec	Statistical
	CA41-028	2082800.377	749741.784	Subsurface Soil	0.5 - 2.5	Metals	6200	6010	Statistical
	CA41-028	2082800.377	749741.784	Subsurface Soil	0.5 - 2.5	VOCs	8260	8260	Statistical
	CA41-029	2082805.205	749706.11	Surface Soil	0.0 - 0.5	Radionuclides	HPGe	Alpha Spec	Statistical
	CA41-029	2082805.205	749706.11	Surface Soil	0.0 - 0.5	Metals	6200	6010	Statistical
	CA41-029	2082805.205	749706.11	Subsurface Soil	0.5 - 2.5	Radionuclides	HPGe	Alpha Spec	Statistical
	CA41-029	2082805.205	749706.11	Subsurface Soil	0.5 - 2.5	Metals	6200	6010	Statistical
	CA41-029	2082805.205	749706.11	Subsurface Soil	0.5 - 2.5	VOCs	8260	8260	Statistical
	CA41-031	2082814.859	749634.76	Surface Soil	0.0 - 0.5	Radionuclides	HPGe	Alpha Spec	Statistical
	CA41-031	2082814.859	749634.76	Surface Soil	0.0 - 0.5	Metals	6200	6010	Statistical
	CA41-031	2082814.859	749634.76	Surface Soil	0.0 - 0.5	VOCs	8260	8260	Statistical
	CA41-031	2082814.859	749634.76	Subsurface Soil	0.5 - 2.5	Radionuclides	HPGe	Alpha Spec	Statistical
			75 707015	1. 2	2 0	Motolo	000	6010	Statistical

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	Statistical	Statistical	Statistical	Statistical	Statistical	Statistical	Statistical	Statistical	Statistical	Statistical	Statistical	Statistical	Statistical	Statistical	Statistical	Statistical	Statistical	Statistical	Statistical	Statistical	Statistical	Statistical	Statistical	Statistical	Statistical	Statistical	Statistical	Statistical	Statistical
Laboratory Method	8260	Alpha Spec	6010	Alpha Spec	6010	8260	Alpha Spec	6010	Alpha Spec	6010	8260	Alpha Spec	6010	Alpha Spec	6010	8260	Alpha Spec	6010	Alpha Spec	6010	8260	Alpha Spec	6010	Alpha Spec	6010	8260	Alpha Spec	6010	Alpha Spec
Laboratory Method	8260	HPGe	6200	HPGe	6200	8260	HPGe	6200	HPGe	6200	8260	HPGe	6200	HPGe	6200	8260	HPGe	6200	HPGe	6200	8260	HPGe	6200	HPGe	6200	8260	HPGe	6200	HPGe
	VOCs	Radionuclides	Metals	Radionuclides	Metals	VOCs	Radionuclides	Metals	Radionuclides	Metals	VOCs	Radionuclides	Metals	Radionuclides	Metals	VOCs	Radionuclides	Metals	Radionuclides	Metals	VOCs	Radionuclides	Metals	Radionuclides	Metals	VOCs	Radionuclides	Metals	Radionuclides
Depui	0.5 - 2.5	+	+	+-	+-	0.5 - 2.5	0.0 - 0.5	0.0 - 0.5	0.5 - 2.5	0.5 - 2.5	0.5 - 2.5	0.0 - 0.5	0.0 - 0.5	0.5 - 2.5	0.5 - 2.5	0.5 - 2.5	0.0 - 0.5	0.0 - 0.5	0.5 - 2.5	0.5 - 2.5	0.5 - 2.5	0.0 - 0.5	0.0 - 0.5	0.5 - 2.5	0.5 - 2.5	0.5 - 2.5	0.0 - 0.5	0.0 - 0.5	05-25
Media	Subsurface Soil	Surface Soil	Surface Soil	Subsurface Soil	Subsurface Soil	Subsurface Soil	Surface Soil	Surface Soil	Subsurface Soil	Subsurface Soil	Subsurface Soil	Surface Soil	Surface Soil	Subsurface Soil	Subsurface Soil	Subsurface Soil	Surface Soil	Surface Soil	Subsurface Soil	Subsurface Soil	Subsurface Soil	Surface Soil	Surface Soil	Subsurface Soil	Subsurface Soil	Subsurface Soil	Surface Soil	Surface Soil	Subsurface Soil
Northing	749634 76	1.	749599 085	749599 085	749599 085	749599 085	749563.41	749563.41	749563.41	749563.41	749563.41	749755.441	749755.441	749755.441	749755.441	749755 441	749821 495	749821.495	749821 495	749821.495	749821.495	749785.821	749785.821	749785.821	749785.821	749785.821	749799.477	749799.477	774007047
Easting	000014 850	2082614.639	2082812.087	2082812.087	2082812.037	2082819.087	2082812:337	2082824.514	2082824 514	2082824 514	2082824.514	2082767.068	890.797.6706	2082767.068	2082767.068	890 7977806	2082757.555	2082852:313	208282222	2082852:313	2082852.513	2082857.341	2082857 341	2082827.341	2082857 341	2082857 341	2082837.341	2082824 031	200202
Location	71.021	+	CA41-032	+-	+	CA41-032	+-	+-	CA41-033	CA41-033	CA41-033	CA41-034	CA41-034	CA41-034	CA41-034	CA41 034	CA41-034	CA42-015	CA42 015	CA42-015	CA42-015	CA42-016	CA42-016	CA42.016	CA42-016	CA42-016	CA42-010	CA42-019	CA 42 010
IHSS/PAC/UBC Site																													
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IHSS/PAC/UBC Lo	Location	Easting	Northing	Media	Depth	Analyte	Onsite	Offisite Laboratory	Comment
<u> </u>	Code				Interval		Method	Method	
747	CA42-019	2082824.031	749799.477	Subsurface Soil	0.5 - 2.5	Metals	6200	6010	Statistical
VV	CA42-019	2082824.031	749799.477	Subsurface Soil	0.5 - 2.5	VOCs	8260	8260	Statistical
Z V	CA42-020	2082828.859	749763.802	Surface Soil	0.0 - 0.5	Radionuclides	HPGe	Alpha Spec	Statistical
CAZ	CA42-020	2082828.859	749763.802	Surface Soil	0.0 - 0.5	Metals	6200	6010	Statistical
V V	CA42-020	2082828.859	749763.802	Subsurface Soil	0.5 - 2.5	Radionuclides	HPGe	Alpha Spec	Statistical
	CA42-020	2082828.859	749763.802	Subsurface Soil	0.5 - 2.5	Metals	6200	6010	Statistical
	CA42-020	2082828.859	749763.802	Subsurface Soil	0.5 - 2.5	VOCs	8260	8260	Statistical
	CA42-024	2082795.55	749777.459	Surface Soil	0.0 - 0.5	Radionuclides	HPGe	Alpha Spec	Statistical
	CA42-024	2082795.55	749777.459	Surface Soil	0.0 - 0.5	Metals	6200	6010	Statistical
	CA42-024	2082795.55	749777.459	Subsurface Soil	0.5 - 2.5	Radionuclides	HPGe	Alpha Spec	Statistical
Y V	CA42-024	2082795.55	749777.459	Subsurface Soil	0.5 - 2.5	Metals	6200	6010	Statistical
Y V	CA42-024	2082795.55	749777.459	Subsurface Soil	0.5 - 2.5	VOCs	8260	8260	Statistical
V V	CA42-026	2082757.413	749826.791	Surface Soil	0.0 - 0.5	Radionuclides	HPGe	Alpha Spec	Statistical
	CA42-026	2082757.413	749826.791	Surface Soil	0.0 - 0.5	Metals	6200	6010	Statistical
	CA42-026	2082757.413	749826.791	Subsurface Soil	0.5 - 2.5	Radionuclides	HPGe	Alpha Spec	Statistical
Y Y	CA42-026	2082757.413	749826.791	Subsurface Soil	0.5 - 2.5	Metals	6200	6010	Statistical
	CA42-026	2082757.413	749826.791	Subsurface Soil	0.5 - 2.5	VOCs	8260	8260	Statistical
Y Y	CA42-027	2082762.241	749791.116	Surface Soil	0.0 - 0.5	Radionuclides	HPGe	Alpha Spec	Statistical
Y V	CA42-027	2082762.241	749791.116	Surface Soil	0.0 - 0.5	Metals	6200	6010	Statistical
	CA42-027	2082762.241		Subsurface Soil	0.5 - 2.5	Radionuclides	HPGe	Alpha Spec	Statistical
S	CA42-027	2082762.241	749791.116	Subsurface Soil	0.5 - 2.5	Metals	6200	6010	Statistical
) V	CA42-027	2082762.241	749791.116	Subsurface Soil	0.5 - 2.5	VOCs	8260	8260	Statistical
RZ	R740-007	2082711 552	749549.746	Surface Soil	0.0 - 0.5	Radionuclides	HPGe	Alpha Spec	Statistical under Building 551
7 Z	R740-007	2082711.552	1_	_	0.0 - 0.5	Metals	6200	6010	Statistical under Building 551
R7.	R740-007	2082711.552		Surface Soil	0.0 - 0.5	VOCs	8260	8260	Statistical under Building 551
RZ	R740-007	2082711.552	L	S	0.5 - 2.5	Radionuclides	HPGe	Alpha Spec	Statistical under Building 551
RZ	R740-007	2082711.552	1_	749549.746 Subsurface Soil	0.5 - 2.5	Metals	6200	6010	Statistical under Building 551
RZ RZ	BZ40-007	2082711.552	1_	Subsurface Soil	0.5 - 2.5	VOCs	8260	8260	Statistical under Building 551
200	2741 002	780 2770800	749568 109	Surface Soil	0.0 - 0.5	Radionuclides	HPGe	Alpha Spec	Statistical under Building 551

IHSS/PAC/UBC Site	Location Code	Easting	Northing	Media	Depth Interval	Analyte	Onsite Laboratory Method	Offsite Laboratory Method	Comment
	BZ41-023	2082775.987	749568.109	Surface Soil	0.0 - 0.5	Metals	6200	6010	Statistical under Building 551
	BZ41-023	2082775.987	749568.109	Surface Soil	0.0 - 0.5	VOCs	8260	8260	Statistical under Building 551
	BZ41-023	2082775.987	749568.109	Subsurface Soil	0.5 - 2.5	Radionuclides	HPGe	Alpha Spec	Statistical under Building 551
	BZ41-023	2082775.987	749568.109	Subsurface Soil	0.5 - 2.5	Metals	6200	6010	Statistical under Building 551
	BZ41-023	2082775.987	749568.109	Subsurface Soil	0.5 - 2.5	VOCs	8260	8260	Statistical under Building 551
	CA41-047	2082760.496	749744.696	Surface Soil	0.0 - 0.5	Radionuclides	HPGe	Alpha Spec	Statistical under Building 551
	CA41-047	2082760.496	749744.696	Surface Soil	0.0 - 0.5	Metals	6200	6010	Statistical under Building 551
	CA41-047	2082760.496	749744.696	Surface Soil	0.0 - 0.5	VOCs	8260	8260	Statistical under Building 551
	CA41-047	2082760.496	749744.696	Subsurface Soil	0.5 - 2.5	Radionuclides	HPGe	Alpha Spec	Statistical under Building 551
	CA41-047	2082760.496	749744.696	Subsurface Soil	0.5 - 2.5	Metals	6200	6010	Statistical under Building 551
	CA41-047	2082760.496	749744.696	Subsurface Soil	0.5 - 2.5	VOCs	8260	8260	Statistical under Building 551
	CA41-048	2082744.181	749679.713	Surface Soil .	0.0 - 0.5	Radionuclides	HPGe	Alpha Spec	Statistical under Building 551
	CA41-048	2082744.181	749679.713	Surface Soil	0.0 - 0.5	Metals	6200	6010	Statistical under Building 551
	CA41-048	2082744.181	749679.713	Surface Soil	0.0 - 0.5	VOCs	8260	8260	Statistical under Building 551
	CA41-048	2082744.181	749679.713	Subsurface Soil	0.5 - 2.5	Radionuclides	HPGe	Alpha Spec	Statistical under Building 551
	CA41-048	2082744.181	749679.713	Subsurface Soil	0.5 - 2.5	Metals	6200	6010	Statistical under Building 551
	CA41-048	2082744.181	749679.713	Subsurface Soil	0.5 - 2.5	NOCs	8260	8260	Statistical under Building 551
	CA41-049	2082792.301	749633.092	Surface Soil	0.0 - 0.5	Radionuclides	HPGe	Alpha Spec	Statistical under Building 551
	CA41-049	2082792.301	749633.092	Surface Soil	0.0 - 0.5	Metals	6200	6010	Statistical under Building 551
	CA41-049	2082792.301	749633.092	Surface Soil	0.0 - 0.5	VOCs	8260	8260	Statistical under Building 551
	CA41-049	2082792.301	749633.092	Subsurface Soil	0.5 - 2.5	Radionuclides	HPGe	Alpha Spec	Statistical under Building 551
	CA41-049	2082792.301	749633.092	Subsurface Soil	0.5 - 2.5	Metals	6200	. 6010	Statistical under Building 551
	CA41-049	2082792.301	749633.092	Subsurface Soil	0.5 - 2.5	VOCs	8260	8260	Statistical under Building 551
	CA41-050	2082775.987	749568.109	Surface Soil	0.0 - 0.5	Radionuclides	HPGe	Alpha Spec	Statistical under Building 551
	CA41-050	2082775.987	749568.109	Surface Soil	0.0 - 0.5	Metals	6200	6010	Statistical under Building 551
	CA41-050	2082775.987	749568.109	Surface Soil	0.0 - 0.5	VOCs	8260	8260	Statistical under Building 551
	CA41-050	2082775.987	749568.109	Subsurface Soil	0.5 - 2.5	Radionuclides	HPGe	Alpha Spec	Statistical under Building 551
	CA41-050	2082775.987	749568.109	Subsurface Soil	0.5 - 2.5	Metals	6200	6010	Statistical under Building 551
	040140	700 2775 007	7/10568 1/10	Subsurface Soil	05-25	VOCs	8260	8260	Statistical under Building 551

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		6200 8260		6010 8260	Alpha Spec	6010 8260	Alpha Spec	6010	8260	Alpha Spec	6010	8260	Alpha Spec	0010 012bg S200	6010	8260	Alpha Spec	6010	8260	Alpha Spec	6010	8260	Alpha Spec
etals nuclides	les les	-	HPGe	6200 8260	HPGe	6200 8260	HPGe	6200	8260	HPGe	6200	8260	HPGe	0700	6200	8260	HPGe	6200	8260	HPGe	6200	8260	HPGe
Radio M	Metals Radionuclides	Metals	nuclides	Metals (VOCs	uclides	Metals (VOCs	nuclides	Metals	VOCs 8	Radionuclides			uclides		Metals		Radionuclides	Metals	VOCs	Radionuclides	Metals	VOCs	Radionuclides HPGe
0.0 - 0.5	-0.5	0.5 - 2.5	1,0	2.5 - 4.5	- 6.5	4.5 - 6.5	-8.5	6.5 - 8.5	6.5 - 8.5	8.5 - 10.5		- 10.5	-0.5	T	0.5 - 2.3	- 2.5	2.5 - 4.5	2.5 - 4.5	2.5 - 4.5	4.5 - 6.5	4.5 - 6.5	4.5 - 6.5	6.5 - 8.5
Surface Soil Subsurface Soil	Surface Soil Subsurface Soil	Subsurface Soil Subsurface Soil		Subsurface Soil Subsurface Soil	\Box	Subsurface Soil	\top	1	Subsurface Soil	Subsurface Soil		Subsurface Soil	Surface Soil	Surface Soil	Subsurface Soil	Subsurface Soil	Subsurface Soil	Subsurface Soil	Subsurface Soil	Subsurface Soil	Subsurface Soil	Subsurface Soil	Subsurface Soil
749823.087	749823.087 749823.087	749823.087		749823.087		749823.087	7		749823.087	749823.087					749814.982		749814.982	749814.982	749814.982	749814.982	749814.982	749814.982	749814.982
2082876.151	CA-42-030 2082876.151 CA-42-030 2082876.151	2082876.151			2082876.151	CA-42-030 2082876.151	CA-42-030 2082876.151	CA-42-030 2082876.151	CA-42-030 2082876.151	CA-42-030 2082876.151	CA-42-030 2082876.151	CA-42-030 2082876.151	CA-42-031 2082872.467	CA-42-031 2082872.467	CA-42-031 2082872.467	CA-42-031 2082872.467	CA-42-031 2082872.467	CA-42-031 2082872.467	CA-42-031 2082872.467	CA-42-031 2082872.467	CA-42-031 2082872.467	CA-42-031 2082872.467	CA-42-031 2082872.467
CA-42-030	CA-42-030 CA-42-030	CA-42-030	CA-42-030	CA-42-030 2082876.151 CA-42-030 2082876.151	CA-42-030 2082876.151	CA-42-030	CA-42-030	CA-42-030	CA-42-030	CA-42-030	CA-42-030	CA-42-030	CA-42-031	CA-42-031	CA-42-031	CA-42-031	CA-42-031	CA-42-031	CA-42-031	CA-42-031	CA-42-031	CA-42-031	CA-42-031
1010	<u> 1</u>			<u> </u>	19				1.3	1.3	1 			-	1								
CA-42	CA-42	CA-42	CA-45	CA-45 CA-45 CA-45 CA-45	CA-45 CA-47 CA-47 CA-47 CA-47	CA-45 CA-47 CA-47 CA-47 CA-47 CA-47 CA-47	CA-45 CA-45 CA-45 CA-45 CA-45 CA-45 CA-45 CA-45 CA-45 CA-45	CA-45 CA-45 CA-47 CA-47 CA-47 CA-47 CA-47 CA-47	CA-45 CA CA-45 CA CA-45 CA CA CA CA CA CA CA CA CA CA CA CA CA	CA-45 CA CA-45 CA CA CA CA CA CA CA CA CA CA CA CA CA	CA-45 CA-45 CA-45 CA-45 CA-45 CA-45 CA-45 CA-45 CA-45 CA-45 CA-45	CA-45 CA-45 CA-45 CA-46 CA-47	CA-45 CA-45 CA-45 CA-45 CA-45 CA-46 CA-47	CA-45	CA-45 CA-45 CA-45 CA-45 CA-45 CA-46 CA-47	CA-45 CA-45 CA-45 CA-45 CA-45 CA-46 CA-47	CA-45	CA-45	CA-45	CA-45	CA-45	CA-45 CA-46 CA-47	CA-45 CA-47

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	Biased at Retention Pond	Biased at Southern Loading Dock	Biased at Northern Loading Dock														
Laboratory Method	6010	8260	Alpha Spec	6010	8260	Alpha Spec	6010	8260	Alpha Spec	6010	8260	Alpha Spec	6010	8260	Alpha Spec	6010	8260
Unsue Laboratory Method	6200	8260	HPGe	6200	8260	HPGe	6200	8260	HPGe	6200	8260	HPGe	6200	8260	HPGe	6200	8260
Analyte	Metals	VOCs	Radionuclides	Metals	VOCs	Radionuclides HPGe	Metals	VOCs	Radionuclides	Metals	VOCs	Radionuclides HPGe	Metals	VOCs	Radionuclides	Metals	VOCs
Depth Interval	6.5 - 8.5	6.5 - 8.5	8.5 - 10.5	8.5 - 10.5	8.5 - 10.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	2.5 - 4.5	2.5 - 4.5	2.5 - 4.5	0.0 - 0.5	0.0 - 0.5	0.0 - 0.5	2.5 - 4.5	2.5 - 4.5	2.5 - 4.5
Media	Subsurface Soil	Surface Soil	Surface Soil	Surface Soil	Subsurface Soil	Subsurface Soil	Subsurface Soil	Surface Soil	Surface Soil	Surface Soil	Subsurface Soil	Subsurface Soil	Subsurface Soil				
Northing	749814.982		1	Т	Т		749804.961	749804.961	749804.961	749804.961	749804.961	749845.369	749845.369	749845.369	749845.369	749845.369	749845.369
Easting		Т	_	Т	Т	T	2082797.716	2082797.716	CA42-032 2082797.716	2082797.716	2082797.716	2082797.316	2082797.316	CA42-033 2082797.316	CA42-033 2082797.316	2082797.316	2082797.316
Location Code	CA-42-031 2082872.467	CA42-032 2	CA42-032 2	CA42-032 2	CA42-032	CA42-032	CA42-032	CA42-033	CA42-033	CA42-033	CA42-033	CA42-033	CA42-033				
IHSS/PAC/UBC Site																	

Table 3 Sampling Summary

Category	Total
Number of Sampling Locations	45
Number of Samples	98
Number of Radionuclide Analyses	98
Number of Metal Analyses	98
Number of VOC Analyses	69





